CLAIMS

What is claimed is:

1. A digital coaxial cable LAN for communicating data between clients of the cable LAN, the cable LAN comprising:

a plurality of clients;

a plurality of adapters, one adapter in communication with at least one client and in communication with at least one other adapter;

at least one coaxial cable couple between a pair of adapters, the at least one coaxial cable having an operating frequency spectrum, the operating frequency spectrum having at least a first portion and a second portion;

data having a data operating frequency that occupies the first portion of the operating frequency spectrum of the coaxial cable; and

at least one signal having a signal operating frequency that occupies the second portion of the operating frequency spectrum of the coaxial cable, the at least one signal controlled by at least one of the plurality of adapters and adapted to transport the data from one adapter to the at least one other adapter.

2. The cable LAN of claim 1 wherein at least one of the plurality of adapters is integrated into a client of the cable LAN.

3. The cable LAN of claim 1 wherein the at least one signal is an in-home signal and the coaxial cable is taped off of a public cable network.

4. The cable LAN of claim 3 further comprising a low pass filter coupled upstream of the in-home signal.

5. The cable LAN of claim 4, the low pass filter having a cut off frequency less than 1000 MHz.

6. The cable LAN of claim 1 wherein the at least one signal is a carrier modulated digital signal.

Sub A2

7. The cable LAN of claim 6 wherein the at least one signal is an in-home signal, the cable LAN further comprising a low pass filter coupled upstream of the in-home signal to a public cable network, wherein the carrier modulated digital signal is generated downstream of the low pass filter.

8. The cable LAN of claim 7 wherein the signal operating frequency is just at the fringe of the data operating frequency.

Sub A3

9. The cable LAN of claim 8 wherein the signal operating frequency is greater than approximately 1000 MHz.

10. The cable LAN of claim 9 wherein the signal operating frequency is between 1000 MHz and 2000 MHz.

11. The cable LAN of claim 10 wherein the signal operating frequency is approximately 1300 MHz.

12. The cable LAN of claim 9 wherein the signal operating frequency has a bandwidth of at least 5 MHz.

13. In a housing, a cable LAN adapter for communicating with external data and external signals carrying data, the adapter comprising:

a broadband ASIC having an I/F core adapted to communicate with the external data, a burst controller in communication with the I/F core, and a baseband

section having an encoder, a decoder, a modulator and a demodulator, wherein the burst controller is in communication with the baseband section;

means for communicating with the baseband section of the broadband ASIC, the means for communicating adapted to convert data to signal and signal to data, means for communicating having a mixed signaler coupled to an up-down converter and having an amplifier coupled to the up-down converter through a synthesizer; and

a medium interface switch coupled to the means for communicating and adapted to communicate with the external signals.

14. The adapter of claim 13 wherein the means for communicating with the baseband section of the broadband ASIC is a radio frequency device in communication with the baseband section of the broadband ASIC.

15. The adapter of claim 14 wherein the I/F core is adapted to communicate with external data through a client interface.

16. The adapter of claim 15 wherein the client interface is an expansion card.

17. The adapter of claim 15 wherein the client interface is one of a Universal Serial Bus (USB) attachment and an attachment meeting the IEEE 1394 standard.

18. The adapter of claim 15 further comprising a dongle security system key coupled to the client interface.

19. The adapter of claim 14 wherein the encoder is a forward error correction encoder.

20. The adapter of claim 19 wherein the forward error correction encoder is a Reed-Solomon Error Correction Coding (RS ECC) encoder adapted to operate as the encoder and the decoder.

21. The adapter of claim 14 wherein the modulator is adapted to modulate in a discontinuous, burst fashion.

22. The adapter of claim 14 wherein the mixed signaler is comprised of a DAC and ADC, the synthesizer is a low frequency synthesizer, the amplifier is comprised of a power amplifier and a low noise amplifier, the up-down converter is comprised of an up converter and a down converter, wherein the low frequency synthesizer couples the up converter to the power amplifier through a first mixer and couples the down converter to the low noise amplifier through a second mixer.

23. The adapter of claim 22 wherein the DAC is adapted to converted digital data to an analog signal having an intermediate frequency and wherein the up converter is adapted to convert the intermediate frequency to a frequency that can be transmitted through a coaxial cable without interfering with data or other signals within the coaxial cable.

24. The adapter of claim 14 wherein the medium interface switch is adapted to interface with coaxial cable.

25. A method for communicating data between a first adapter coupled to a second adapter by a coaxial cable, the method comprising the steps of:

receiving digitized data in the first adapter from a client, the digitized data having a data operating frequency;

processing the digitized data within the first adapter into a signal having a signal operating frequency that is greater than the data operating frequency; and

communicating the signal from the first adapter to the second adapter through the coaxial cable.

26. The method of claim 25, the step of processing the digitized data comprising the steps of:

modulating the digitized data into an analog wave form;

converting the modulated data into an analog signal having an intermediate frequency;

increasing the intermediate frequency to a frequency that is greater than the data operating frequency; and

amplifying the power of the signal.